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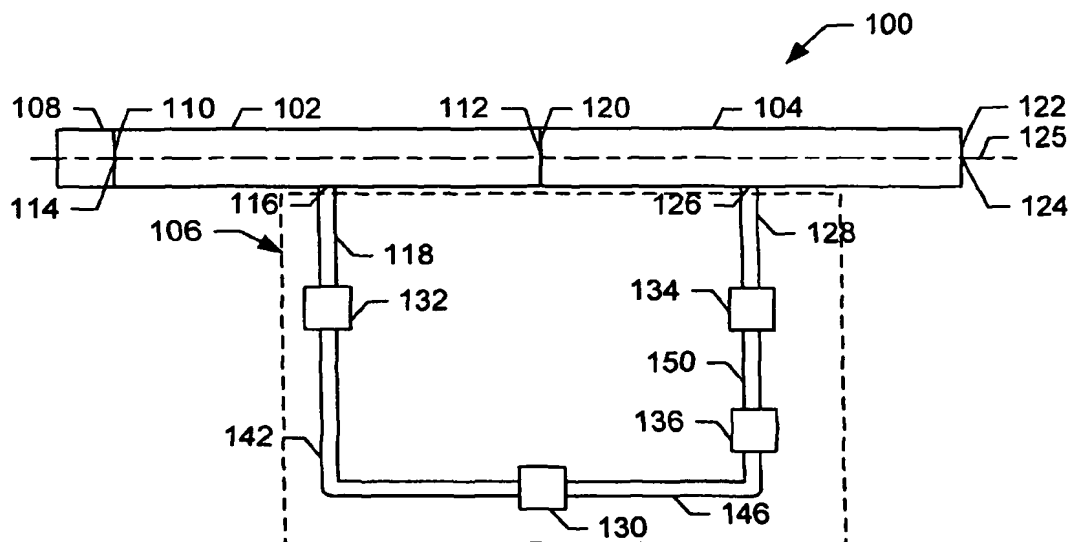
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(54) Title: PARTICLE ACCELERATOR HAVING WIDE ENERGY CONTROL RANGE



(57) Abstract: A particle accelerator system (100) for producing a charged particle beam having pulses of charged particles that have different energy levels from pulse to pulse. The system enables independent adjustment of the RF power delivered to first (102) and second (104) accelerating sections thereof without adjustment of the RF power generated by an RF source (106). Such independent adjustment enables the RF power provided to the first accelerating section (102) to be maintained at a level appropriate for optimal particle capturing therein and for producing a tightly, bunched beam of particles having different energy levels from pulse to pulse, while enabling; the RF power provided to the second accelerating section (104) to be varied in order to vary the energy levels of the charged particles of the charged particle beam from pulse to pulse.



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B. FIELDS SEARCHED

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | US 6,444,990 B1 (MORGAN et al) 3 September 2002 (03.09.2002), col. 2, lines 13-37. | 1 and 5 |
| A | US 6,326,861 B1 (VILLA) 4 December 2001 (04.12.2001), col.11, lines 24-47. | 1 and 5 |



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